Computing and Telecommunication Architectural Standards – Internet Domain Name Standards

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Introduction

This document describes the Internet Domain Name System (DNS) and Washington State's Domain and Host Naming Standards, which are designed to:

- provide for *users*, domain and host names that clearly indicate the legitimacy and authority of government Web applications, services, and information, (including, but not limited to those that include transactions involving personally identifiable information and financial payments),

- provide *agency domain administrators* with clear written naming standards to follow when requesting Internet domain and host names, and

- provide the *DIS state Internet domain administrator* with standards from which decisions can be made regarding requests for Internet domain and host names and naming structures.

This document was developed by the Internet Domain and Host Naming Sub-Committee of the Technical Architecture Advisory Group (TAAG) in conjunction with the state's Customer Advisory Board (CAB), which recommend standards to the Information Services Board (ISB).

Statutory Authority

The provisions of RCW 43.105.041 detail the powers and duties of the Information Services Board (ISB), including the authority to develop statewide or interagency information services and technical policies, standards, and procedures.

Scope

These standards apply to all executive and judicial branch agencies and educational institutions, as provided by law, that operate, manage, or use IT services or equipment to support critical state business functions.

Exemptions

Pre-existing Internet domain and host names will not be affected by these standards. Those operating outside the standards are solely responsible for the administration of Internet domain and host names (including timely renewal of domains in a manner that is not disruptive to the state enterprise).

Standards

The purpose of this document is to define statewide standards for Internet top-level, sub-domain, and host domains within the wa.gov and state.wa.us state domains so that clients can access Digital Government information and services in a consistent, easy-to-use manner.

Basic Principles for Top-Level, Sub-Domain, and Host Names

A domain name (i.e., www.dshs.wa.gov) is used to locate an organization or entity via the Internet. The domain name is then translated into a numerical Internet Protocol (IP) address (i.e., 198.238.16.3) by a domain name system (DNS). Hence, the text based domain name provides a more meaningful way for the client to locate an organization or entity.

There are three primary hierarchical levels of Internet domain names. The top-level domain name such as .gov, .us, .org, or .edu indicates the organization type. A second-level domain like wa.gov is a unique name that has been registered by InterNIC. The wa.gov domain is also commonly referred to as the "state domain." Within the state's domain exist agency sub-domains such as dshs.wa.gov or ofm.wa.gov. Host names identify an agency server or web-application within a sub-domain.

The following Top-Level, Sub-Domain, and Host Naming Standards for agency sub-domains are intended to promote an effective and unambiguous computer nomenclature as described in the Introduction. Requests for new names will be subject to these standards. Pre-existing Internet domain names are not affected.

Top-Level Domains

State agencies and other state organizations may want to secure additional alias names for top-level domains in order to allow mistyped names to reach the intended site or to protect a name from misuse. Agency web site alias names shall always resolve to the official wa.gov, state.wa.us, or .org domain name, as appropriate. Organizations which do not fit well into either the wa.gov, or the state.wa.us domain structures, and who do work with or for government at some level, may consider using a .org top-level domain.

Historically, these have been non-profits, consortiums, etc. Inclusion of .com names into the state DNS will not be allowed.

The Use of .us Domain Names

An agency considering the management of its own .us domain should review the suggested practices in RFC 2182 about secondary domains, particularly sections 3.1 and 3.2.

Sub-Domain Names Under the wa.gov or state.wa.us Domain

Upon request, the state Internet domain administrator shall assign each state agency, board, commission, council, etc. a designation to serve as the sub-domain name. The agency designation shall be its official agency acronym. The sources for official acronyms sub-domain names are:

Legislature's Agency Codes and Authorized Abbreviations
http://www.ofm.wa.gov/policy/75.20.htm

Governor's listing of Boards and Commissions
http://governor.wa.gov/boards/names.htm

Examples of sub-domains of the wa.gov state domain include lni.wa.gov, dol.wa.gov, ofm.wa.gov, etc.

Sub-domains are assigned to the agencies in order to delegate the authority and responsibility for the administration, and the adding, changing and deleting of Web server hosts to the responsible agency. DIS does, however, provide DNS administration services for smaller agencies that prefer not to administer a sub-domain themselves.

Host Naming Criteria

Host names identify agency servers and/or web-applications. Agency domain administrators are responsible for their own host-level naming conventions within their designated sub-domain.

Under the following criteria, host names and application names may be designated directly under the domains of wa.gov or state.wa.us:

- A consortium of agencies run the program served. For example, the site is an interagency site where there is no lead agency. However, there must be a designated agency accountable for the host name.
- The program's scope is truly statewide and is the only such program in the state. Documentation describing the broad state coverage needs to accompany the request.
- The program name is descriptive of the hosting agency or government offices it is responsible for (i.e., federal programs).

- The program has a legitimate and especially significant need to be perceived as hosted by the State of Washington at the highest level, rather than hosted by a state agency. Please make available documentation from an authority such as the Office of the Governor or the Legislature.

When multiple names are required or anticipated for a single consortium of agencies a sub-domain for that group shall be established under the wa.gov or state.wa.us domain. Responsibility for administration of that sub-domain shall be assigned to the lead agency of the consortium.

Related Policy, Standards, and Guidelines

Computing and Telecommunications Architecture Policy

Maintenance

Technological advances and changes in the business requirements of agencies will necessitate periodic revisions to policies, standards, and guidelines. The Department of Information Services is responsible for routine maintenance of these to keep them current. Major policy changes will require the approval of the ISB.

Definitions

Domain Name System (DNS); A general-purpose distributed, replicated, data query service chiefly used on the Internet for translating hostnames into Internet addresses. Also, the style of hostname used on the Internet, though such a name is properly called a fully qualified domain name. DNS can be configured to use a sequence of name servers, based on the domains in the name being looked for, until a match is found.

Fully Qualified Domain Name (FQDN); The full name of a system, consisting of its local hostname and its domain name, including a Top-Level Domain (TLD). For example, "venera" is a hostname and "venera.isi.edu" is an FQDN. A FQDN should be sufficient to determine a unique Internet address for any host on the Internet. This process, called "name resolution", uses the Domain Name System (DNS).

Internet Network Information Center (InterNIC); In 1992, in cooperation with the Internet community, the National Science Foundation selected three organizations to receive cooperative agreements in the areas of Information Services, Directory and Database Services, and Registration Services to provide and/or coordinate services for the NSFNet community. Together these three awards constitute the InterNIC. General Atomics provides information services, AT&T provides directory and database services, and Network Solutions, Inc. (NSI) provides registration services. See www.internic.net/index.html

Internet Protocol (IP) address; a numeric address such as 123.231.32.2 that the domain name server translates from a domain name.

Top Level Domain (TLD); The rightmost portion of a host name, such as ".gov", is name of the top-level domain to which the host computer belongs. In addition to the ".gov" domain, for use by government entities, there are more than 200 other top-level domains, called generic Top-Level Domains (gTLDs). Most generic Top-Level Domains are country codes managed by national registries. A few are global top-level domains.

Universal Resource Location (URL) a.k.a. **Uniform Resource Identifiers** (URI); A standard way of specifying the location of an object, typically a Web page, on the Internet. They are used in HTML documents to specify the target of a hyperlink, which is often another HTML document, possibly stored on another computer. See www.w3.org/Addressing/.